

CLAIMS

1. An ultrasonographic equipment comprising:

an ultrasonic transducer unit in which ultrasonic
5 transducer elements for scanning ultrasonic beam are arranged
in a state of an array;

a transducer unit oscillating motor for making the
ultrasonic transducer unit perform oscillation scanning in
the direction crossing the scanning direction of the
10 ultrasonic beam;

an oscillation angle detection means for detecting an
oscillation angle of the ultrasonic transducer unit;

an ultrasonic transmission means for exciting the
ultrasonic transducer element to form the ultrasonic beam;

15 an ultrasonic receiving means for forming ultrasonic
beam from ultrasonic echo received by the ultrasonic
transducer element and converting the ultrasonic beam to
visible image data;

a three-dimensional image processing means for forming
20 a three-dimensional image based on the oscillation angle
detected by the oscillation angle detection means and image
data outputted from the ultrasonic receiving means; and

an image display means for displaying the
three-dimensional image.

2. An ultrasonographic equipment comprising:

an ultrasonic transducer unit in which ultrasonic transducer elements for scanning ultrasonic beam are arranged in a state of an array;

5 a transducer unit oscillating motor for making the ultrasonic transducer unit perform oscillation scanning in the direction crossing the scanning direction of the ultrasonic beam;

an oscillation angle detection means for detecting an
10 oscillation angle of the ultrasonic transducer unit;

an ultrasonic transmission means for exciting the ultrasonic transducer element to form the ultrasonic beam;

an ultrasonic receiving means for forming ultrasonic beam from ultrasonic echo received by the ultrasonic
15 transducer element and converting the ultrasonic beam to visible image data;

an oscillation angle information adding means for adding information of the oscillation angle detected by the oscillation angle detection means to image data outputted
20 from the ultrasonic receiving means;

a three-dimensional image processing means for forming a three-dimensional image based on image data and the added oscillation angle information outputted from the oscillation angle information adding means; and

25 an image display means for displaying the

three-dimensional image.

3. The ultrasonographic equipment according to claim 1
or claim 2, wherein the three-dimensional image processing
5 means forms a three-dimensional image based on angle
information obtained by smoothing the information of the
oscillation angle detected by the oscillation angle detection
means.

10 4. An ultrasonographic equipment comprising:

an ultrasonic transducer unit which two-dimensionally
scans a fault plane of a test body, and is driven to be oscillated
in the direction orthogonal to a scanned face of the
two-dimensional scanning;

15 a scanning conversion means for recording a receiving
signal obtained by the two-dimensional scanning by the
ultrasonic transducer unit in a frame memory to create
two-dimensional image data, reading out the two-dimensional
image data, and outputting the two-dimensional image data;

20 a delay means for delaying position information in the
oscillation direction of the ultrasonic transducer unit by
processing time of the scanning conversion means; and

a three-dimensional image processing means for creating
a three-dimensional image from the two-dimensional image data
25 of a plurality of frames sequentially outputted from the

scanning conversion means based on the position information in the oscillation direction delayed by the delay means.

5. An ultrasonographic equipment comprising:

5 an ultrasonic transducer unit which two-dimensionally scans a fault plane of a test body, and is driven to be oscillated in the direction orthogonal to a scanned face of the two-dimensional scanning;

a scanning conversion means for recording a receiving
10 signal obtained by the two-dimensional scanning by the ultrasonic transducer unit in a frame memory to create two-dimensional image data, writing position information in the oscillation direction of the ultrasonic transducer unit in the frame memory, reading out the two-dimensional image
15 data and the position information, and outputting the two-dimensional image data and the position information; and

a three-dimensional image processing means for creating a three-dimensional image from the two-dimensional image data of a plurality of frames and the position information in the
20 oscillation direction which are sequentially outputted from the scanning conversion means.